



UNITED STATES PATENT AND TRADEMARK OFFICE

Handwritten signature

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,181	04/13/2004	Mukul Chawla	CISCP372/7752	6362

22434 7590 09/22/2006

BEYER WEAVER & THOMAS, LLP
P.O. BOX 70250
OAKLAND, CA 94612-0250

EXAMINER

BAKER, STEPHEN M

ART UNIT PAPER NUMBER

2133

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,181

Applicant(s)

CHAWLA ET AL

Examiner

Stephen M. Baker

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11, 12 and 14-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 14-28 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>050405</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-8, 11, 14-17 and 23-28 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,243,846 to Schuster *et al* (hereafter "Schuster").

Schuster discloses arrangements for encoding error correction packets to supplement received data packets and for decoding a subset of the combination of data and parity packets after transmission over the network (Internet) to recover lost data packets.

Regarding claims 2, 3, 24, 25, 27 and 28, copying of data packets to an encoding buffer in Schuster's arrangements allows the data packets to be transmitted before generation of the error correction packets is completed, thereby eliminating data packet transmission delay (col. 9, lines 23+).

Regarding claims 4-8, The network path between Schuster's encoder and decoder "associates" Schuster's encoder and decoder with network end-points, edge switches, and network nodes, as the encoder and decoder may be located in a computer terminal, network server, hub or router (col. 17, lines 53-57).

Regarding claim 11, Schuster's RTP protocol is tunneled via TCP/IP.

Regarding claim 14, Schuster's internet data packets are presumably part of a communication session.

Regarding claim 15, Schuster's encoding is presumed to occur in the network layer, in the environment of a hub or router, for example, as Schuster's error correction packets are provided with IP headers.

Regarding claims 16 and 17, the Internet is understood to be usable as a unicast and multicast network.

Regarding claims 23 and 26, Schuster's reception of data packets, at a network server, hub or router for example, requires an interface to the source of data packets, and Schuster's encoding requires a processor.

3. Claims 23 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,079,042 to Vaman *et al* (hereafter "Vaman").

Vaman discloses arrangements placed within the infrastructure of an ATM network for receiving data cells (data packets), encoding parity cells (error correction packets) to be combined with data cells (data packets) and decoding the combined data cells and parity cells. Cells are considered a form of "packet." Vaman's reception of data packets requires an interface to the source of data packets, and Vaman's encoding requires a processor.

Claim Rejections - 35 USC § 103

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster.

Although Schuster mentions Reed-Solomon codes as good FEC codes, and suggests that alternatives may be used to cross-wise parity, Schuster does not specifically mention using Reed-Solomon coding instead of cross-wise parity. Official

Notice is taken that using Reed-Solomon coding to generate error correction packets was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute Reed-Solomon coding for parity coding in Schuster's error correction packets. Such a substitution would have been obvious because using Reed-Solomon coding to generate error correction packets was already well known.

Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster in view of U.S. Patent No. 6,895,019 to Gibson *et al* (hereafter "Gibson").

Schuster does not disclose using a timer for deciding that packets in Schuster's error correction block of data packets are lost. The packet recovery advantage of using a timer to detect lost packets was conventional and well known at the time the invention was made, as evidenced by Gibson. At the receiver in Gibson's arrangement, processing of the packets in a chunk is assisted by a timer that is set upon receiving the first packet of the packet block (col. 9, lines 21+). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Schuster's packet recovery with a timer for detecting lost packets Schuster's error correction block. Such an implementation would have been obvious because Schuster's system would otherwise evidently become stalled if the last packet of the error correction block was lost, and because the packet recovery advantage using a timer to detect lost packets was conventional and well known at the time the invention was made, as evidenced by Gibson.

Art Unit: 2133

5. Claims 1-8, 11, 14-17, 24, 25, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaman in view of U.S. Patent No. 5,642,365 to Murakami (hereafter "Murakami").

Vaman does not disclose copying the received data cell content to a buffer for encoding so that the data cells can be forwarded to the network before the parity cells are generated. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Vaman's encoding arrangements with an encoding buffer for copying data cell content so that data cells can be forwarded to the network before error correction encoding is complete. Such an implementation would have been obvious because Murakami teaches avoiding unnecessary delay of ATM cell (packet) transmission by copying packet data to an encoding buffer.

Regarding claim 11, encapsulation of the packet data by ATM cell overhead for supporting the ATM's virtual circuit transmission establishes a virtual circuit "tunnel" between the FEC encoder and decoder, with the ATM cell headers serving as tunnel headers.

Regarding claim 14, an ATM network virtual circuit "session" is formed for the duration of the ATM's virtual circuit.

Regarding claim 17, Vaman does not describe the ATM network as a multicast network. Official Notice is given that providing an ATM network with multicast capability was well known and conventional at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement the ATM network used by Vaman's encoder and decoder as a

Art Unit: 2133

multicast network. Such an implementation would have been obvious because providing an ATM network with multicast capability was already well known and conventional.

Regarding claims 18-22, Vaman does not mention using a timer to detect lost packets. Official Notice is given that using a timer to detect lost packets was well known and conventional at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Vaman's lost packet determination by means of a timer. Such an implementation would have been obvious because using a timer to detect lost packets was already well known and conventional.

Allowable Subject Matter

6. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed 19 June 2006 have been fully considered but they are not persuasive. Applicant's arguments are addressed in the rejections above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (571) 272-3814. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Stephen M. Baker
Primary Examiner
Art Unit 2133

smb